

# Action plans, self-monitoring and adherence: changing behaviour to promote better self-management

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AUSTRALIANS WITH ASTHMA arguably have access to better asthma management and a better-educated professional workforce than ever before. However, significant clinical problems persist, including underdiagnosis, limited asthma knowledge, undertreatment with inhaled corticosteroids, and poor patient management skills.<sup>1</sup> Past efforts have focused on improving the asthma management skills of health professionals, on educating and supporting consumers, and on advocacy. Currently, there is a focus on the interaction between health professionals and consumers, and how best to achieve behaviour change in both groups to promote greater capacity for patient self-management. The issues for young children with asthma are similar to those affecting adults with asthma. However, an important difference is that the parent or carer is the conduit for the child's health management.

## Asthma Management Plan

Despite the availability of effective asthma medication, high asthma morbidity and mortality in the late 1980s suggested the need for evidence-based clinical practice guidelines and treatment protocols. To meet these needs the Asthma Management Plan was developed by the Thoracic Society of Australia and New Zealand,<sup>2</sup> and widely promulgated by the National Asthma Campaign. The Plan is a simple set of guidelines for the management of asthma that aims to achieve and maintain disease control (see Box) and to assist health professionals to develop good asthma management practices.

There is now good evidence that particular elements of the Asthma Management Plan improve patient self-management through monitoring asthma symptoms, seeking regular medical review, and using a written asthma action plan. Clinical trials using these approaches show impressive reductions in asthma morbidity, with reductions in hospitalisations, emergency department visits, unscheduled doctor visits and number of days lost from school due to asthma.<sup>4</sup> Presumably, the mechanism of improved asthma outcome from these approaches to self-management is better adherence to the healthcare regimen.

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## ABSTRACT

### What we know

- Patient self-management improves asthma outcomes. The key features of self-management are having a written asthma action plan, monitoring asthma symptoms and seeking regular review.
- Self-management is an important goal. Doctors can learn how to improve patient self-management.
- Multiple attitudinal barriers limit adherence to asthma preventers, especially inhaled corticosteroids in children.
- Appointment reminders improve clinic attendance.
- Poor adherence with the asthma treatment regimen is common. Simplification of the healthcare regimen is associated with better adherence.

### What we need to know

- What is it about a written action plan that is the key to its effect? Is it mostly useful for managing acute asthma exacerbations or is it also useful for day-to-day management in the longer term?
- How can broader implementation of action plans be achieved in Australia?
- How can appointment reminders be incorporated into regular medical care?
- How can we modify patient attitudinal and knowledge barriers to preventer medication?
- How can we improve compliance with asthma preventer medication?

MJA 2002; 177: S72-S74

## Written action plan

Population-based studies of children and adults have shown an increase in the use of action plans. Between 1990 and 1993, the proportion of children in eastern Australia with an action plan increased from 17% to 22%.<sup>5</sup> Between 1992 and 1995, the proportion of adults with asthma in South Australia who reported having an action plan almost doubled.<sup>6</sup> However, in 1996, in a random population survey of SA adults with asthma, 33% claimed they had a written asthma action plan, compared with 42% reporting this in a survey using the same methods 12 months earlier.<sup>7</sup> Thus, while there have been significant increases in the penetration of action plans over time in some Australian populations, it appears that this trend has not been sustained. Furthermore, a large proportion of the population with asthma still do not have a written action plan.

A recent qualitative study of adults with asthma<sup>8</sup> suggests that telephone surveys investigating the presence of asthma

action plans probably underestimate the number of individuals with a medically credible "plan of action" for asthma management (in contrast to a written action plan). This study highlighted that not all individuals with a written action plan used it. While most adults with asthma action plans found them useful, they were frequently modified by patients on the basis of their experience of disease, and their perceptions of likely asthma outcomes. These findings suggest that, if action plans are to be effectively implemented, clinicians must find ways to engage with a patient's personal asthma experience. What elements have been found useful?

### Self-monitoring

Adults who practise self-monitoring, in conjunction with a written action plan and regular medical review, have significantly fewer hospitalisations and emergency department visits.<sup>4</sup> Self-monitoring can be achieved through symptom monitoring, diary records of medication use, and assessment of airflow function (peak expiratory flow or spirometry). Measurement of peak flow cannot be used to monitor preschoolers. However, symptom-based self-monitoring is as effective as monitoring peak expiratory flow.<sup>9</sup>

### Regular review

Appointment reminders have been shown to improve clinic attendance.<sup>10</sup> However, despite regular review being integral to the Australian six-step Asthma Management Plan, there has been little focus on how more structured approaches to promoting regular review can be incorporated into routine asthma care. One example is the 3+ Visit Plan, a Commonwealth Government-funded national initiative for asthma management by general practitioners (<http://www.health.gov.au/pq/asthma/3plusgp.htm>), which provides a framework for pro-active education and review of children and adults with moderate to severe asthma. There is promising early evidence of the benefits of regular review using this framework (Dr Nicholas Glasgow, Associate Professor of General Practice, Canberra Clinical School, Australian National University, personal communication).

### Adherence

Poor adherence to treatment regimens by people with asthma is very well documented. Simplification of the healthcare regimen is associated with better adherence to preventive treatment.<sup>11</sup> Thus, we should encourage:

- reducing the frequency of daily doses;
- limiting the total number of different medications (eg, prescribing a combination inhaler rather than two separate inhalers); and
- choosing the same type of inhaler for different medication types (eg, metered-dose inhaler v dry powder).

There are multiple barriers to regular preventer medication. In one study of adults with asthma,<sup>12</sup> barriers included lack of knowledge: 62% of respondents stated they only used inhaled corticosteroids when they needed to, and 22%

### The six-step Asthma Management Plan<sup>3</sup>

- 1 Assess asthma severity**
  - Assess overall severity when the patient is stable, not during an acute attack
- 2 Achieve best lung function**
  - Treat with intensive asthma therapy until "best" lung function is achieved
  - Back-titrate to lowest dose that maintains good symptom control and best lung function
- 3 Maintain best lung function. Avoid trigger factors**
  - Identify and avoid trigger factors and inappropriate medication
- 4 Maintain best lung function with optimal medication**
  - Treat with the least number of medications and use the minimum doses necessary
  - Ensure the patient understands the difference between "preventer", "reliever", and "symptom controller" medications
  - Take active steps to reduce the risk of adverse effects from medication
- 5 Develop an action plan**
  - Discuss and write an individualised care plan for the management of exacerbations
  - Detail the increases in medication doses and include when and how to gain rapid access to medical care
- 6 Educate and review regularly**
  - Ensure patients and their families understand the disease, the rationale for their treatment and how to implement their action plan
  - Emphasise the need for regular review, even when asthma is well controlled
  - Review inhaler technique at each consultation
  - Review adherence at each consultation

reported not using them because they felt fine. Other barriers surround beliefs and attitudes: 33% reported preferring not to use inhaled corticosteroids unless they "feel sick", and 27% reported that they don't want to use them. In children, parental anxiety about inhaled corticosteroids is a common barrier to preventer medication.

Other barriers to adherence may be more structural. In a telephone survey of Australian adults with asthma,<sup>13</sup> 21% agreed with the statement that "I do not always understand what my doctor is telling me". It is hoped that the introduction of new Medicare Item numbers for asthma review consultations may be one step towards overcoming these barriers.

### Self-management

A recent Cochrane review of adherence-promoting strategies makes disappointing reading.<sup>11</sup> Studies reviewed measured both adherence and treatment outcomes, and only 10 of 19 randomised-controlled trials were associated with improved adherence. How do we make sense of this in view of the relatively compelling data supporting the use of written action plans and regular review? It may be that action plans (with their focus on when to use medication, and when to seek help for an acute asthma exacerbation) affect the outcome of acute asthma exacerbations (in terms

of emergency room visits and hospital admissions), but have less effect on adherence to the day-to-day treatment regimen, which is the focus of the Cochrane review. If this were the case, we would expect that action plans should have a greater impact on young children, in whom the population burden of asthma is primarily from viral-induced exacerbations of acute asthma.

Patient self-management using an action plan requires adherence to multiple components (Box). These include taking regular medication, self-monitoring, obtaining repeat prescriptions, seeking regular medical review, obtaining urgent health care when indicated, and avoiding triggers (eg, parental smoking cessation). The concept of the "expert patient" — patients taking responsibility for day-to-day decisions and working in partnership with healthcare providers — involves thinking about what patients want and need in order to be able to "self-manage".<sup>14</sup> Lorig suggests that the doctor's role in developing expert patients includes pro-active endorsement, setting short-term goals, providing opportunities for patient support, assisting patients to understand their symptoms, and practising social persuasion to reinforce positive behaviour change.<sup>15</sup>

### Can we teach better self-management?

The value of integrating self-management skills, improved doctor-patient communication and best-practice disease management was demonstrated by a randomised controlled trial focusing on educating doctors about how to improve asthma outcomes in children.<sup>16</sup> In this study, primary care paediatricians participated in two educational sessions covering:

- maintaining interactive conversation;
- identifying underlying worries or concerns;
- giving specific reassuring information;
- reaching agreement on short-term goals; and
- helping parents use specific criteria for decision-making (in the context of providing a written action plan).

Both asthma outcomes and parental satisfaction improved significantly in the intervention group. Contrary to expectations, this style of consultation took less time than standard care. Presumably, this is the same style of consultation that Douglass et al<sup>8</sup> suggest would facilitate implementing action plans in adults. A new challenge is to incorporate behaviour-change principles that better support self-management into clinical asthma guidelines.

### Why don't doctors follow clinical practice guidelines?

It is well recognised that, despite wide promulgation, guidelines *per se* have had little effect in changing physician behaviour. Clearly, better adherence to guidelines by health professionals is critical in translating recommendations into improved outcomes. There is now a reasonable body of work about how best to influence clinical practice.<sup>17</sup> This includes guidelines supported by evidence; local adoption and consensus, including the role of opinion leaders; wide dissemination to medical managers; and multifaceted inter-

ventions. The use of a practice audit is another promising approach, unlike continuing medical education approaches, which are disappointing.

In summary, small changes in behaviour in relation to asthma management, whether involving doctors or patients, can make a substantial difference to the management and outcomes of children with asthma. Many of the approaches to achieving these changes are promising, but further research is required.

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